

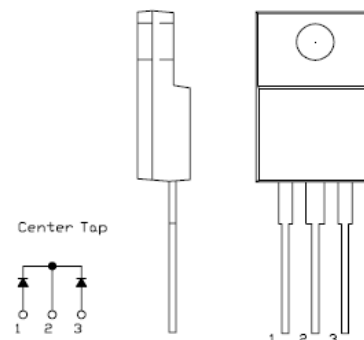
**MBRF20100CT SCHOTTKY RECTIFIER**

**Applications:**

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

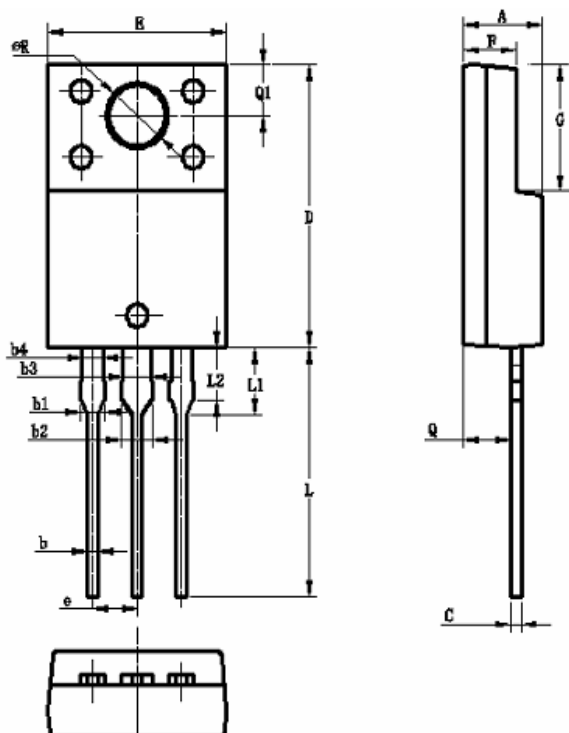
**Features:**

- 175 °C T<sub>J</sub> operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request



**OUTLINE DRAWING**

**Mechanical Dimensions (In mm)**



Dim	OPTION 1(CJ)		OPTION 2(HD)	
	Min	Max	Min	Max
A	4.35	4.65	4.30	4.70
b	0.50	0.75	0.50	0.75
b1	1.15	1.402	1.20	1.45
b2	1.55	1.802	1.60	1.85
b3	1.55	1.65	1.50	1.75
b4	1.10	1.35	1.10	1.35
C	0.50	0.75	0.55	0.75
D	14.8	15.2	14.80	15.20
E	10.06	10.26	9.96	10.36
e	2.46	2.62	2.55TYP	
F	2.85	3.15	2.80	3.20
G	6.50	6.90	6.50	6.90
L	12.70	13.70	12.70	13.70
L1	3.40	3.80	3.40	4.00
L2	2.60	3.00	-	-
Q	2.60	2.80	2.50	2.90
Q1	2.50	2.90	2.50	2.90
ØR	3.40	3.60	3.30	3.70

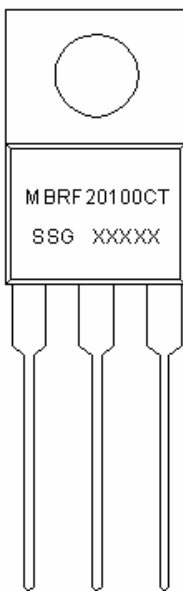
**ITO-220AB**



Technical Data  
Data Sheet N0080, Rev. C

*Green Products*

**Marking Diagram:**



Where XXXXX is YYWWL

MBR = Device Type  
F = Package type  
20 = Forward Current (20A)  
100 = Reverse Voltage (100V)  
CT = Configuration  
SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

**Ordering Information:**

Device	Package	Shipping
MBRF20100CT	ITO-220AB (Pb-Free)	50pcs / tube

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	$V_{RWM}$	-	100	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C=133^\circ\text{C}$ , rectangular wave form	10(Per leg) 20(Per device)	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	150	A



**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg)*	V <sub>F1</sub>	@ 5A, Pulse, T <sub>J</sub> = 25 °C @ 10A, Pulse, T <sub>J</sub> = 25 °C	0.80 0.90	V
	V <sub>F2</sub>	@ 5A, Pulse, T <sub>J</sub> = 125 °C @ 10A, Pulse, T <sub>J</sub> = 125 °C	0.70 0.80	V
Max. Reverse Current at DC condition (per leg)	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 25 °C	1.0	mA
Max. Reverse Current (per leg)*	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 125 °C	6.0	mA
Repetitive peak reverse current	I <sub>RRM</sub>	tp = 2 μs square F= 1 kHz	1	A
Max. Junction Capacitance (per leg)	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>sig</sub> = 1MHz	250	pF
Typical Series Inductance (per leg)	L <sub>S</sub>	Measured lead to lead 5 mm from package body	8.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/μs
RSM Isolation Voltage (t = 1.0 second, R. H. <=30%, T <sub>A</sub> = 25 °C)	V <sub>ISO</sub>	Clip mounting, the epoxy body away from the heatsink edge by more than 0.110" along the lead direction.	4500	V
		Clip mounting, the epoxy body is inside the heatsink.	3500	
		Screw mounting, the epoxy body is inside the heatsink.	1500	

\* Pulse Width < 300μs, Duty Cycle <2%

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T <sub>J</sub>	-	-55 to +175	°C
Max. Storage Temperature	T <sub>stg</sub>	-	-55 to +175	°C
Maximum Thermal Resistance Junction to Case (per leg)	R <sub>θJC</sub>	DC operation	3.5	°C/W
Approximate Weight	wt	-	2	g
Case Style	ITO-220AB			

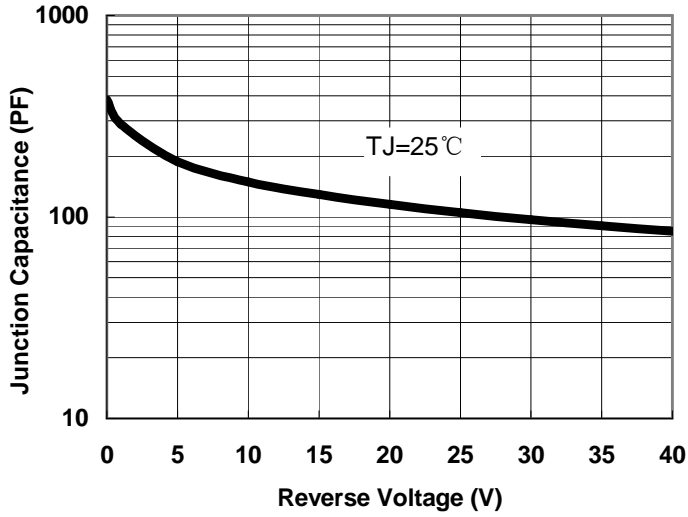


Fig.1-Typical Junction Capacitance

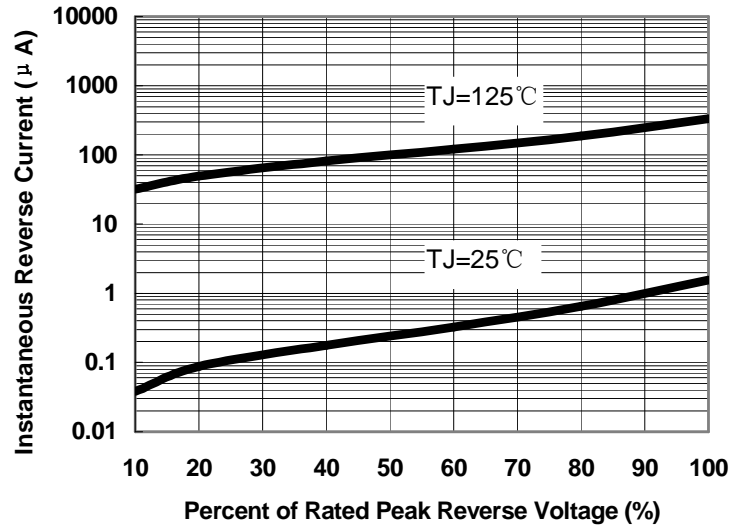


Fig.2-Typical Reverse Characteristics

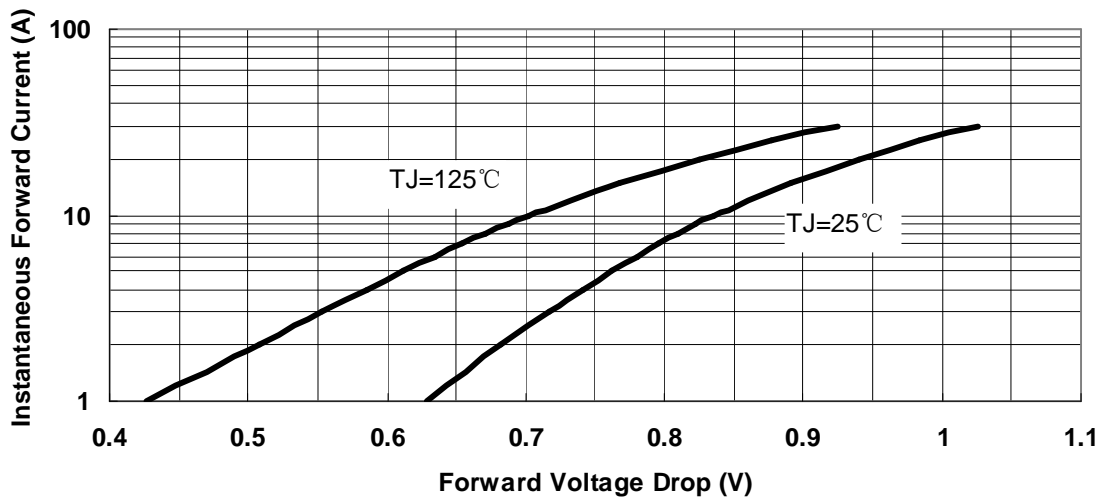


Fig.3-Typical Instantaneous Forward Voltage Characteristics



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